

Ethylene Oxide

WAC 296-855-100

Scope

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This chapter applies to all occupational exposure to ethylene oxide.



Definitions:

- **Ethylene oxide** (EtO) is an organic chemical represented by the Chemical Abstract Service (CAS) registry number 75-21-8. It is a flammable colorless gas that is commonly used to sterilize medical equipment and as a fumigant for certain agricultural products. It is also used as an intermediary in the production of various chemicals such as ethylene glycol, automotive antifreeze, and polyethylene.
- **Exposure** is the contact an employee has with EtO, whether or not protection is provided by respirators or other personal protective equipment (PPE). Exposure can occur through various routes of entry such as inhalation, ingestion, or skin and eye contact.

Some of the requirements in this chapter may not apply to every workplace with an occupational exposure to EtO. The following steps will show which requirements apply to your workplace based on employee exposure monitoring results.

- Step 1:** Follow requirements in the basic rules section, WAC 296-855-20010 through 296-855-20090.
- Step 2:** Use employee exposure monitoring results from the exposure evaluations required by, Exposure evaluations, WAC 296-855-20050, and follow Table 1 to find out which additional sections of this chapter apply to your workplace.
- Step 3:** You need only follow Exposure records, WAC 296-855-20070 and Medical records, WAC 296-855-30080 if you have documentation conclusively demonstrating that employee exposure for ethylene oxide and the operation where it's used, can't exceed the AL or STEL during any conditions reasonably anticipated.
- Such documentation can be based on observations, data, calculations, and previous air monitoring results.

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Table 1
Sections That Apply to Your Workplace

If	Then continue to follow the basic rules, and the additional requirements in
Employee exposure monitoring results are below the AL and STEL	No additional requirements if exposures remain stable
Employee exposure monitoring results are above the PELS Note: PEL refers to both the STEL and TWA	<ul style="list-style-type: none">Exposure and medical monitoring, WAC 296-855-30010 through 296-855-30080andExposure control, WAC 296-855-40010 through 296-855-40040
Employee exposure monitoring results are above the AL and Below the STEL	Exposure and medical monitoring, WACs 296-855-30010 through 296-855-30080
Where there is a possibility of an emergency release of EtO	Establish a written emergency response plan and a means of alerting potentially exposed employees as found in Exposure Control Plan, WAC 296-855-40010